

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference E SD/RS/rock	FOR FURTHER ACTION <small>see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.</small>	
International application No. PCT/EP 00/06978	International filing date (day/month/year) 07/07/2000	(Earliest) Priority Date (day/month/year) 16/07/1999
Applicant ROCKWOOL INTERNATIONAL A/S		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.
☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).
- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing:
- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the title,

- ☒ the text is approved as submitted by the applicant.
- ☐ the text has been established by this Authority to read as follows:

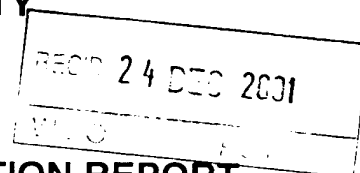
5. With regard to the abstract,

- ☒ the text is approved as submitted by the applicant.
- ☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

- ☐ as suggested by the applicant.
- ☐ because the applicant failed to suggest a figure.
- ☐ because this figure better characterizes the invention.

☒ None of the figures.



INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)



Applicant's or agent's file reference E SD/JH/XL33/51		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/EP00/06978	International filing date (day/month/year) 07/07/2000	Priority date (day/month/year) 16/07/1999
International Patent Classification (IPC) or national classification and IPC C03C25/24		
Applicant ROCKWOOL INTERNATIONAL A/S		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 6 sheets, including this cover sheet.
- ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 12/02/2001	Date of completion of this report 18.12.2001
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized officer Van Bommel, L Telephone No. +31 70 340 2747 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/EP00/06978

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-8 as originally filed

Claims, No.:

1-15 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/EP00/06978

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	4,6-15
	No:	Claims	1-3,5
Inventive step (IS)	Yes:	Claims	4,6-15
	No:	Claims	1-3,5
Industrial applicability (IA)	Yes:	Claims	1-15
	No:	Claims	

2. Citations and explanations
see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Documents

The following documents (D1-D5) are referred to in this communication; the numbering will be adhered to in the rest of the procedure:

D1: EP-A-354 361

D2: EP-A-726 252

D3: US-A-4 074 988

D4: EP-A-826 710

D5: US-A-3767671

2. Novelty and inventive step

The present application does not satisfy the criterion set forth in Article 33(2) PCT because the subject-matter of claims 1 - 3 and 5 is not new in respect of prior art as defined in the regulations (Rule 64(1)-(3) PCT) for the following reasons:

D1 (see e.g. the claims) describes resins that are formed by the reaction of an amine with two different cyclic aromatic anhydrides. The resins are used for coatings and will apparently also be suitable for binding mineral fibres. Since the anhydrides are aromatic they are considered to meet the pH requirement of claim 3 of the application (cf. page 2, lines 3 - 10 of the description of the application).

Therefore, D1 describes all features of claims 1 - 3 of the application.

D2 (see the abstract and page 3, lines 54 - 58) describes a reaction product of phthalic acid anhydride and an amine.

Therefore, D2 describes all features of claims 3 and 5 of the application.

The subject-matter of claims 4 and 6 - 15 does not appear to be disclosed in or suggested by any of the prior art documents D1 - D5.

Re Item VII

Certain defects in the international application

Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1 - D5 is not mentioned in the description, nor are these documents identified therein.

Re Item VIII

Certain observations on the international application

The application does not meet the requirements of Article 6 PCT, because claims 1 and 3 are not clear for the following reasons:

i. Claims 1 and 3 are both worded as independent claims and do not comprise the same technical features. Moreover they do not comprise all technical features that appear essential to the performance of the invention, as can be inferred from the description.

It is apparent from the description (see page 1, line 28 - page 2, line 10) that the applicant has found a solution to the problem of improving curing times of resins comprising reaction products of an amine with an anhydride, which resins are to be used in binders for mineral fibres..

It can be inferred from this part of the description that this solution comprises the use of **different cyclic** anhydrides of which one is **aromatic** and/or **adjusts the pH to between 2.5 and 4.2** (aromatic anhydrides are stated to be more acidic than aliphatic ones).

Claim 1 defines the reaction product of an amine and two different anhydrides without specifying the nature of these anhydrides (cyclic, aromatic, pH).

Claim 2 (dependent on claim 1) just adds the feature that the anhydrides are cyclic.

Claim 3 defines the reaction product of an amine with a cyclic anhydride at a certain (not specified) pH, and does not mention the second anhydride.

Therefore independent claims 1 and 3 do not meet the requirement following from Article 6 taken in combination with Rule 6.3(b) PCT that any independent

claim must contain all the technical features essential to the invention.

ii. Claims 1 and 3 are not consistent in the definition of the feature "polymer free". Claim 1 defines a "resin comprising the **reaction product of a polymer free mixture** ..." , whereas claim 3 defines a "resin **comprising a polymer free mixture** ..." , said resin comprising the reaction product of ...".

Therefore, it is not clear whether it is essential that the resin is polymer free, or the reaction product is polymer free, or that the mixture of reactants is polymer free.